Antimicrobial activity of ethanolic and methanolic extracts of herb, celery, fennel and cumin on plant pathogenic bacteria (Xanthomonas campestris) under invivo and invitro conditions

Golnaz Rahmanparast*, Dr. Somayeh Ataee Jaliseh, Dr. Mir Sasan Mirpour,

Herbal bacteria cause significant damage to crops. The most important Signs of leaf spot disease are, pathogenic strain, canker, feather wilt, pounding, and gall production. The symptoms of leaf spot disease are based on cultivar, age of the tree, host's tissue and environmental conditions. The aim of this study was to investigate the effects of ethanolic and methanolic extracts of of four plants, cumin, angelica, celery and fennel plants on plant pathogen bacteria, Xanthomonas campestris were investigated. The inhibitory potential of pathogenic bacterial growth. in the laboratory section was investigated by diffusion method and MIC and MBC method and invivo in greenhouse conditions. The results showed that the highest diameter of the halo in the disk diffusion method of related to ethanol extract of Angelica, fennel ethanol, and methanol of Angelica was 21, 19, 18 mm, respectively. The best antimicrobial effect in the minimum inhibitory concentration (MIC) and minimum inhibitory concentration (MBC) was found in fennel extracts, respectively, 25 and 50 mg / ml, The lowest antimicrobial activity of Cumin extract with MIC and MBC was 125 and 250 mg / ml. The invivo study showed a weak antimicrobial effect of ethanolic extract of cumin and amaranth and excellent antimicrobial effect of fennel extract.

Keywords : Key Words: Xanthomonas campesttris; ethanolic Extracts; Antimicrobial Effect; bacterial pot; Carum carvi;Heracleum persicum;Foeniculum vulgare;Apium graveolens <u>دانشگاه آزاد اسلامی واحد رشت - سامانه بانک اطلاعات پایان نامه ها</u>